

IES-3080 / IES-3062 Series



ORing WEB-site

➤ **Industrial 8-port managed Ethernet switch**

Features

- World's fastest Redundant Ethernet Ring: O-Ring (recovery time < 10ms over 250 units of connection)
- O-Chain allow multiple redundant network rings
- Support standard IEC 62439-2 MRP^{*NOTE} (Media Redundancy Protocol) function
- MSTP/RSTP/STP (IEEE 802.1s/w/D)
- Supports Auto Negotiation Speed
- Support PTP Client (Precision Time Protocol) clock synchronization
- Support Modbus/TCP protocol
- IGMP v2/v3 (IGMP snooping for support) filtering multicast traffic
- Port Trunking for easy of bandwidth management
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- RMON for traffic monitoring
- Support LLDP protocol
- Port lock to prevent access from unauthorized MAC address
- Windows utility (Open-Vision) support centralized management and configurable by Web-based, Telnet, Console (CLI)
- Completely combination of 10/100Base-T(X), 100Base-FX, 1000Base-T, 1000Base-SX, and 1000Base-LX ports
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled
- Multiple notification for warning of unexpected event
- Web-based, Telnet, Console (CLI), and Windows Utility (**Open-Vision**) configuration
- Support LLDP Protocol



***NOTE: This function is available by request only**

Introduction

IES-3080 / IES-3062 series are managed Redundant Ring Ethernet switches with 6x10/100Base-T(X) and 2x10/100Base-T(X), 100Base-FX, 1000Base-T, 1000Base-SX or 1000Base-LX ports. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), O-Chain, MRP^{*NOTE} and MSTP/RSTP/STP (IEEE 802.1s/w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. O-Chain is the revolutionary network redundancy technology that provides the add-on network redundancy topology for any backbone network, O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology. O-Chain providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology. IES-3080 / IES-3062 series can be managed centralized and convenient by a powerful windows utility — Open-Vision. In addition, the wide operating temperature range from -40°C to 75°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choice for highly-managed Fiber Ethernet application.

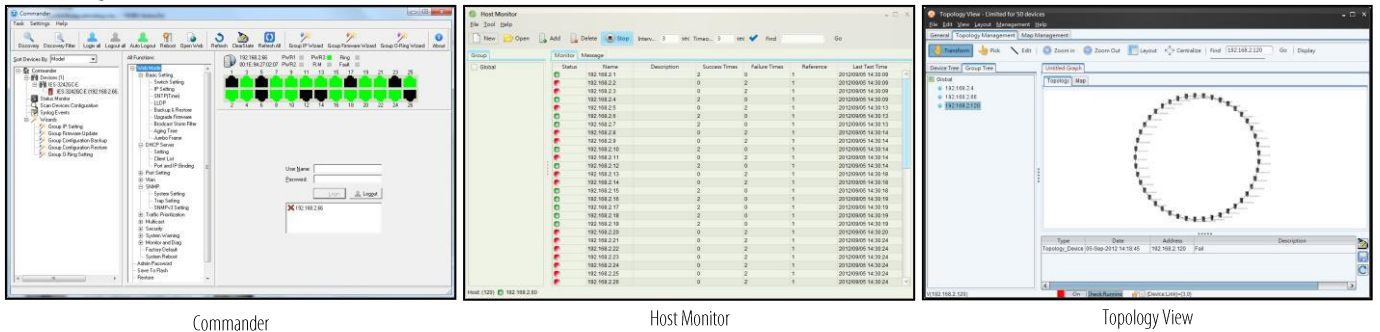
- **O-Ring:** O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 30 milliseconds and up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- **O-Chain:** O-Chain is the revolutionary network redundancy technology that provides the add-on network redundancy topology for any backbone network, O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology. O-Chain providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology.

- **MRP: Media Redundancy Protocol (MRP)** ^{*NOTE} is a data network protocol standardized by the IEC 62439-2. It allows rings of Ethernet switches to overcome any single failure with recovery time much faster than achievable with Spanning Tree Protocol.
- **Modbus TCP:** This is a Modbus variant used for communications over TCP/IP networks.

***NOTE: This function is available by request only**

Open-Vision

ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows Utility (Open-Vision) for user to manage and monitor all industrial Ethernet switches on the industrial network.

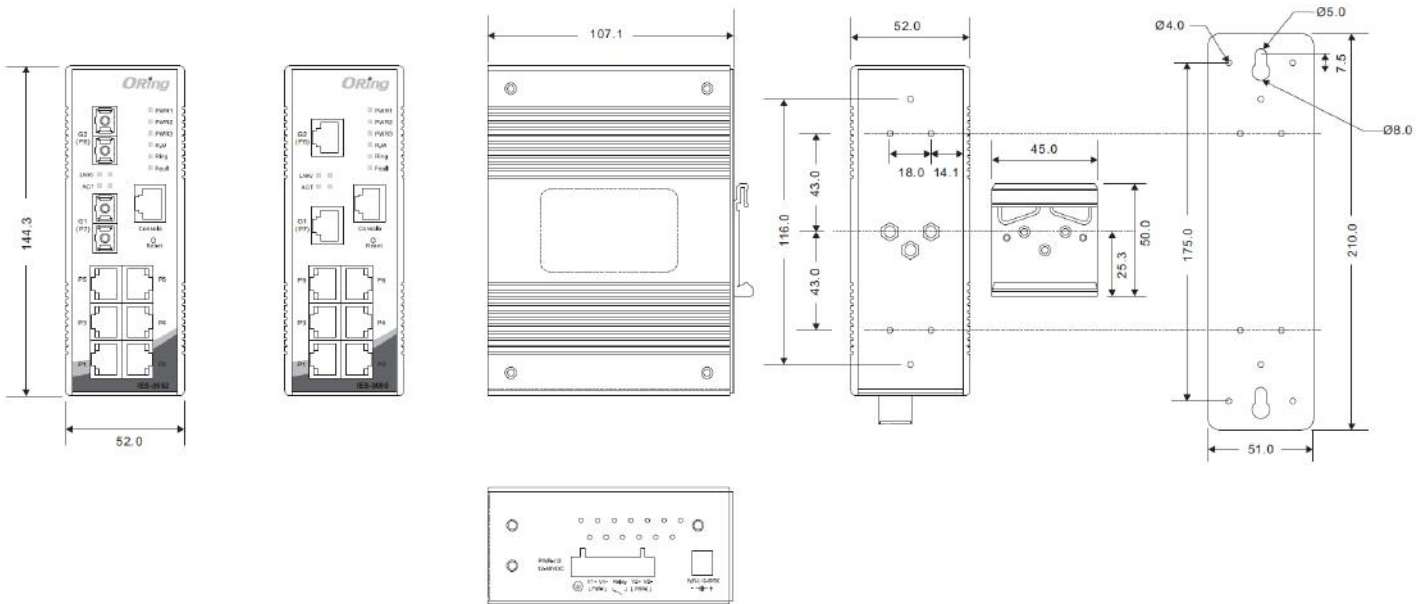


Commander

Host Monitor

Topology View

Dimensions



Specifications

| ORing Switch Model | | IES-3080 | IES-3062GT | IES-3062FX-MM | IES-3062FX-SS | IES-3062GF-MM | IES-3062GF-SS |
|--|--|----------|------------|--------------------------|---------------|--------------------------|---------------|
| Physical Ports | | | | | | | |
| 10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX | | 8 | 6 | 6 | 6 | 6 | 6 |
| 10/100/1000Base-T(X) Ports in RJ45 Auto MDI/MDIX | | - | 2 | - | - | - | - |
| Fiber Ports Specifications | Fiber Ports Number | - | - | 2 | 2 | 2 | 2 |
| | Fiber Ports Standard | - | - | 100Base-FX | 100Base-FX | 1000Base-SX | 1000Base-LX |
| | Fiber Mode | - | - | Multi-mode | Single-mode | Multi-mode | Single-mode |
| | Fiber Diameter (µm) | - | - | 62.5/125 µm 50/125 µm | 9/125 µm | 62.5/125 µm 50/125 µm | 9/125 µm |
| | Fiber Optical Connector | - | - | SC | SC | SC | SC |
| | Typical Distance (km) | - | - | 2 km | 30 km | 0.55km | 10 km |
| | Wavelength (nm) | - | - | 1310 nm | 1310 nm | 850 nm | 1310 nm |
| | Max. Output Optical Power (dBm) | - | - | -14 dBm | -8 dBm | -4 dBm | -3 dBm |
| | Min. Output Optical Power (dBm) | - | - | -23.5 dBm | -15 dBm | -9.5 dBm | -9.5 dBm |
| | Max. Input Optical Power (Saturation) | - | - | 0 dBm | 0 dBm | 0 dBm | -3 dBm |
| | Min. Input Optical Power (Saturation) | - | - | -31 dBm | -34 dBm | -18 dBm | -20 dBm |
| | Link Budget (dB) | - | - | 7.5 dBm | 19 dBm | 8.5 dBm | 10.5 dBm |
| Technology | | | | | | | |
| Ethernet Standards | IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3z for 1000Base-X IEEE 802.3ab for 1000Base-T IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) | | | | | | |
| MAC Table | 8K | | | | | | |
| Packet buffer | 1Mbits | | | | | | |
| Priority Queues | 4 | | | | | | |
| Processing | Store-and-Forward | | | | | | |
| Switch Properties | Switching latency: 2.03 µs Switching bandwidth: 1.6Gbps for IES-3080/IES-3062FX Series 5.6Gbps for IES-3062GT/IES-3062GF Series Throughput (packet per second): 2600Mpps@64Bytes packet Max. Number of Available VLANs: 4096 VLAN ID Range: VID 1 to 4095 IGMP multicast groups: 1024 Port rate limiting: User Define | | | | | | |
| Security Features | Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1Q) to segregate and secure network traffic Supports Q-in-Q VLAN for performance & security to expand the VLAN space | | | | | | |

| | | | | | | |
|-------------------------------------|---|---------|---------|---------|---------|---------|
| | Radius centralized password management SNMP V1/V2c/V3 encrypted authentication and access security | | | | | |
| Software Features | STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging and GVRP supported IGMP Snooping for multicast filtering Port configuration, status, statistics, monitoring, security SNTP for synchronizing of clocks over network Support PTP Client (Precision Time Protocol) clock synchronization DHCP Server / Client support Port Trunk support MVR (Multicast VLAN Registration) support Modbus TCP | | | | | |
| Network Redundancy | O-Ring O-Chain MRP* NOTE MSTP/RSTP/STP | | | | | |
| RS-232 Serial Console Port | RS-232 in RJ45 connector with console cable. 9600bps, 8, N, 1 | | | | | |
| LED indicators | | | | | | |
| Power Indicator (PWR) | Green: Power LED x 3 | | | | | |
| Ring Master Indicator (R.M.) | Green: Indicates that the system is operating in O-Ring Master mode | | | | | |
| O-Ring Indicator (Ring) | Green: Indicates that the system operating in O-Ring mode Green Blinking: Indicates that the Ring is broken. | | | | | |
| Fault Indicator (Fault) | Amber: Indicate unexpected event occurred | | | | | |
| 10/100Base-T(X) RJ45 Port Indicator | Green for Link/Act indicator: on for link-up, off for link-down, Blinking for act. Amber for Duplex/Collision indicator: on for full-duplex, off for half-duplex, blinking for half-duplex and collision occurred. | | | | | |
| 10/100/1000Base-T(X) Port Indicator | Green for port Link/Act. indicator: on for link-up, off for link-down, Blinking for act. Amber for 100Mbps indicator: on for 100Mbps, off for 10/100Mbps | | | | | |
| 100Base-FX Port Indicator | Green for port Link/Act. indicator: on for link-up, off for link-down, Blinking for act. Amber for port link indicator: on for link-up, off for link-down. | | | | | |
| 1000Base-SX/LX Port Indicator | Green for port Link/Act. indicator: on for link-up, off for link-down, Blinking for act. Amber for port link indicator: on for link-up, off for link-down. | | | | | |
| Fault contact | | | | | | |
| Relay | Relay output to carry capacity of 1A at 24VDC | | | | | |
| Reset Function | | | | | | |
| Reset Button | < 5 sec: System reboot, > 5 sec: Factory default | | | | | |
| Power | | | | | | |
| Redundant Input power | Triple DC inputs, 12~48VDC on 7-pin terminal block, 12~45VDC on power jack | | | | | |
| Power consumption (Typ.) | 5 Watts | 8 Watts | 9 Watts | 9 Watts | 7 Watts | 7 Watts |
| Overload current protection | Present | | | | | |
| Reverse Polarity Protection | Present on terminal block | | | | | |
| Physical Characteristic | | | | | | |
| Enclosure | IP-30 Aluminum | | | | | |
| Dimension (W x D x H) | 54.2 (W) x 107.1 (D) x 145.4 (H)mm 2.13 (W) x 4.24 (D) x 5.72 (H) inch | | | | | |
| Weight (g) | 710 g | 722 g | 735 g | 735 g | 740 g | 740 g |
| Environmental | | | | | | |
| Storage Temperature | -40 to 85°C (-40 to 185°F) | | | | | |
| Operating Temperature | -40 to 75°C (-40 to 167°F) | | | | | |
| Operating Humidity | 5% to 95% Non-condensing | | | | | |
| Regulatory approvals | | | | | | |
| EMC | CE EMC (EN 55024, EN 55032), FCC Part 15 B | | | | | |

| | | | | | | |
|-----------|---|------------------|------------------|------------------|-----------------|------------------|
| EMI | EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, VCCI class A, C-Tick class A, FCC Part 15 B class A | | | | | |
| EMS | EN 55024 (IEC/EN 61000-4-2 (ESD: Contact 4KV, Air 8KV), IEC/EN 61000-4-3 (RS: 3V), IEC/EN 61000-4-4 (EFT Power 0.5KV, Signal 0.5KV), IEC/EN 61000-4-5 (Surge: Power 0.5KV, RJ45 1KV), IEC/EN 61000-4-6 (CS: 3V), IEC/EN 61000-4-8(PFMF), IEC/EN 61000-4-11 (DIP)) | | | | | |
| Shock | IEC60068-2-27 | | | | | |
| Free Fall | IEC60068-2-31 | | | | | |
| Vibration | IEC60068-2-6 | | | | | |
| Safety | EN 60950-1 (LVD) | | | | | |
| MTBF | 841599.7655 hrs. | 798350.9135 hrs. | 550165.7204 hrs. | 479542.4583 hrs. | 432000.3143 hrs | 503318.5983 hrs. |
| Warranty | 5 years | | | | | |

***NOTE: This function is available by request only**

Ordering Information

IES-3AA BCC-DD-EE



| Code Definition | 10/100Base-T(X) Port Number | Additional Port Number | Additional Port Type | Fiber Optical Mode | Fiber Optical Connector |
|-----------------|--------------------------------|----------------------------|---|-------------------------------------|-------------------------|
| Option | -08: 08 ports -06: 06 ports | -0: 0 ports -2: 2 ports | -GT: 10/100/1000Base-T(X) -FX: 100Base-FX -GF: 1000Base-SX/LX | -MM: Multi-mode -SS: Single-mode | -SC: SC Connector |

| Available Model | Model Name | Description |
|-----------------|------------------|--|
| | IES-3080 | Industrial 8-port managed Ethernet switch with 8x10/100Base-T(X) |
| | IES-3062GT | Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x10/100/1000Base-T(X) |
| | IES-3062FX-MM-SC | Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x100Base-FX, multi-mode, 2Km/1310nm, SC connector |
| | IES-3062FX-SS-SC | Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x100Base-FX, single-mode, 30Km/1310nm, SC connector |
| | IES-3062GF-MM-SC | Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x1000Base-SX, multi-mode, 550m/850nm, SC connector |
| | IES-3062GF-SS-SC | Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x1000Base-LX, single-mode, 10Km/1310nm, SC connector |

Packing List

- IES-3080/IES-3062 Series x 1
- DIN-Rail Kit x 1
- Wall-mount Kit x 2
- ORing Tool CD x 1
- Quick Installation Guide x 1
- Console Cable x 1

Optional Accessories

- Open-Vision M500: Powerful Network Management Windows Utility Suit, 500 IP devices
- DR/SDR/DRP Series DIN-Rail power supply